

WHAT IS CLAIMED IS:

1. A neutralizing method of neutralizing organic alkaline wastewater by producing nitric acid ions by aerobic microorganisms.

5 2. A neutralizing apparatus for neutralizing organic alkaline wastewater by producing nitric acid ions by aerobic microorganisms.

10 3. A neutralizing method by mixing organic wastewater containing nitrogen into inorganic alkaline wastewater and producing nitric acid ions by aerobic microorganisms.

15 4. A neutralizing apparatus by mixing organic wastewater containing nitrogen into inorganic alkaline wastewater and producing nitric acid ions by aerobic microorganisms.

5. The neutralizing apparatus according to Claim 2, wherein

20 an ultrafilter membrane, a vinylidene chloride packing material, a pH meter and air supply means are included and aerobic microorganisms are utilized.

6. The neutralizing apparatus according to Claim 5, wherein

the ultrafilter membrane is a submerged membrane disposed in a water tank.

7. The neutralizing apparatus according to Claim 4,
wherein

organic wastewater containing nitrogen is an
excessive domestic sludge slurry.

5 8. The neutralizing apparatus according to Claim 6,
wherein

a diffusing pipe capable of automatically
adjusting a discharge amount is provided below the
submerged membrane.

10 9. The neutralizing apparatus according to Claim 6,
wherein

a diffusing pipe separate from the diffusing pipe
below the submerged membrane is disposed below the
vinylidene chloride packing material and the amount of air
15 discharged from this separate diffusing pipe is interlocked
with the pH meter.

10. The neutralizing apparatus according to Claim 6,
wherein

20 a dissolved oxygen meter is provided in the water
tank.

11. The neutralizing apparatus according to Claim 9,
wherein

a gas discharged from the separate diffusing pipe
is a nitrogen gas.

12. A neutralizing method for neutralizing alkaline wastewater by propagating aerobic microorganisms and producing nitric acid ions while a nitrogen gas and air are blown into.

5 13. The neutralizing method according to Claim 1, wherein

aerobic microorganisms are nitrate-forming bacteria or nitrite-forming bacteria.

10 14. The neutralizing apparatus according to Claim 6, wherein

a vinylidene chloride packing material and a guide are disposed below the submerged membrane, the vinylidene chloride packing material guide is disposed on both outside extension lines of the submerged membrane and a diffusing pipe is disposed therebelow.

15 15. The neutralizing apparatus according to Claim 14, wherein

the vinylidene chloride packing material is composed of a plurality of ring-shaped structures extending radially.

20 16. The neutralizing apparatus according to Claim 15, wherein

the apparatus also serves as a biological wastewater treatment apparatus.

17. The neutralizing apparatus according to Claim 5,
wherein

the microorganism concentration within the
apparatus is 10,000 ppm or higher.

5 18. The neutralizing apparatus according to Claim 9,
wherein

the treatment capacity of the submerged membrane
is controlled by the amount of air discharged from the
diffusing pipe disposed below the vinylidene chloride
packing material.

10